

MULTIMEDIA



UNIVERSITY

STUDENT ID NO

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# MULTIMEDIA UNIVERSITY

## FINAL EXAMINATION

TRIMESTER 1, 2019/2020

**EES3016 – ENGINEER AND SOCIETY**  
(All Section / Groups)

14 OCTOBER 2019  
9:00am – 11:00am  
(2 Hours)

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### INSTRUCTIONS TO STUDENTS

1. This Question paper consists of 6 pages (including the cover page) with 5 Questions only.
2. Attempt all of the **FIVE** questions. All questions carry equal marks and the distribution of the marks for each question is given.
3. Please write all your answers in the Answer Booklet provided.

**Question 1**

- (a) In some countries, the economic market is controlled by foreigners in terms of workforce and investments.

Discuss ONE (1) disadvantage due to the scenario above from the:

- (i) economical perspective.

[2 marks]

- (ii) social perspective

[2 marks]

- (b) Discuss with examples Industrial Revolution 4.0 (IR4.0).

[4 marks]

- (c) Discuss ONE (1) Green Building design feature and its advantage.

[2 marks]

- (d) *Dematerialization* is one eco-efficient method that can be adopted by industries to ensure that their negative impact on the environment is minimized.

Citing suitable example, discuss how the above method can be achieved.

[4 marks]

- (e)

*The rapid rise in Earth's surface temperatures are caused mainly by Green House Emissions (GHE).*

- (i) Discuss ONE (1) negative impact of global climate change.

[2 marks]

- (ii) Describe briefly TWO (2) methods of climate engineering to reduce the greenhouse effect.

[4 marks]

**Continued...**

**Question 2**

- (a) The Occupational Safety and Health (OSH) Policy sets out how an organisation manages safety and health issues in the workplace. Name THREE (3) parts that make up an OSH Policy.  
[3 marks]
- (b) The Occupational Safety and Health Act was gazetted in Malaysia in 1994.
- (i) Describe THREE (3) objectives of this Act.  
[6 marks]
- (ii) Referring to the Act as a guideline, describe the THREE (3) duties of an employee while at work.  
[6 marks]
- (c) You are the owner of a restaurant. An accident involving fire has occurred in the kitchen. Describe, with suitable examples, the course of action you should take. Hint: Your answer should be based on the duties of employer/organisation under the OSHA 1994.  
[5 marks]

**Continued...**

**Question 3**

- (a) Managers require certain skills at different levels of management to ensure an effective and efficient realization of their working tasks. Briefly discuss the THREE (3) types of managerial skills and include the importance of each skill within the top, middle and first line management.

[9 marks]

- (b) Globalization describes international integrated markets and global interconnectedness that affects all professions, including engineers. Answer the following:

- (i) Discuss the impacts of globalization on the engineering trade.

[4 marks]

- (ii) Explain how the Washington Accord had accelerated the globalization engineering education.

[5 marks]

- (iii) As a member of the Washington Accord, name TWO (2) other member countries that could easily employ engineers from Malaysia.

[2 marks]

**Continued**

**Question 4**

- (a) Discuss the importance of Code of Ethics. [4 marks]
- (b) Discuss the importance of Code of Practices. [4 marks]
- (c) State the Engineering Code of Ethics applicable in each scenario below. For each scenario, discuss briefly the impact of these actions by engineers:
- (i) Adopting a new code of practice or technical standard from a foreign country. [4 marks]
  - (ii) Receiving money assistance to secure a tender. [4 marks]
  - (iii) Providing consultancy in a field outside expertise. [4 marks]

**Continued...**

**Question 5**

- (a) David, an engineer employed by ABC Sdn. Bhd. (ABCSB), is requested to do a safety check in an area of the company premise where scaffold assembly works are being done. The scaffold is part of ABC Sdn. Bhd. (ABCSB) preparation in anticipation of a visit by an overseas investor.

During the safety check, David discovers that one part of the scaffolding is partially damaged. However, David does not report the finding to the management because he assumes the installation work will not be postponed in anticipation of the investor visit.

- (i) Citing ONE (1) suitable Code of Engineering Ethics, discuss the impact of the action by David in not reporting the damaged scaffolding.

[5 marks]

- (ii) Suggest the sequence of actions that should have been taken by David after discovering the damaged scaffolding.

[5 marks]

- (b) Ir. John runs an electrical consultancy firm in Kuala Lumpur.

In May 2017, Ir. John is employed by the City Council to design a bridge as part of an elevated highway system. Due to work and time constraint, Ir. John finds that he has insufficient time to prepare the required design.

Ir. John then requests the assistance of his junior consultant engineer, Ir. KC, to design and verify the weight loading aspects of the bridge. Ir. KC's design contribution is not recorded in the meetings between Ir. KC and the City Council.

Subsequently, the electrical system was successfully built and completed in May 2018. Ir. John was paid for the services offered to the City Council.

In September 2018, the electrical system suffers substantial tripping off due to overloading. Ir. John was later called for an inquiry by the Board of Engineers (BEM) to explain his design and why it was flawed.

Citing TWO (2) suitable Code of Engineering Ethics, discuss the implication of the action of Ir. John in NOT recording the contributions of Ir. KC in the design.

[10 marks]

**End of Paper**